

Internal Revenue Service
memorandum

date: JUL 11 1991

to: Dave Hechler
Senior Regional Analyst

from: Kim A. Palmerino
Special Counsel (International)

subject: Financial Products

You requested assistance in the formulation of IDR's relating to the various financial products being used by corporate finance departments which result in potential tax issues.

The generic term for the more common financial products being utilized is "Notional Principal Contracts" ("NPC"). From an audit standpoint NPC's may be difficult to identify because they are generally off balance sheet items which appear, if at all, as footnotes to the financial statements.

The ISP Commodity group headed by Cary Russ (Chicago) has been in the forefront in the financial products area. Alan Boffard is the North Atlantic regional contact.

The ISP group has put together course materials relating to NPC's. The text that follows is taken largely from those ISP materials. The "Audit Techniques" portion, following the text provides a list of questions for the examining agent to ask .

Notional principal contracts are agreements between two parties that call for a series of payments which are calculated with respect to a fictional amount of principal. That is, the contracts are structured as though they were debt instruments but the principal amount which is used to calculate the payments to be made is not actually exchanged (in some instances of currency or cross-currency swaps, an exchange of principal may occur). Notional principal contracts are widely used by domestic and international financial institutions and corporations to minimize exposure to adverse changes in interest and currency exchange rates, and to convert a particular financial asset or liability from a fixed to a floating rate and from one currency to another. There are two basic kinds of notional principal contracts: swaps, which are used to convert interest rate exposure from fixed to floating, and caps, collars, and floors, which are used to limit, but not convert, a user's interest rate exposure.

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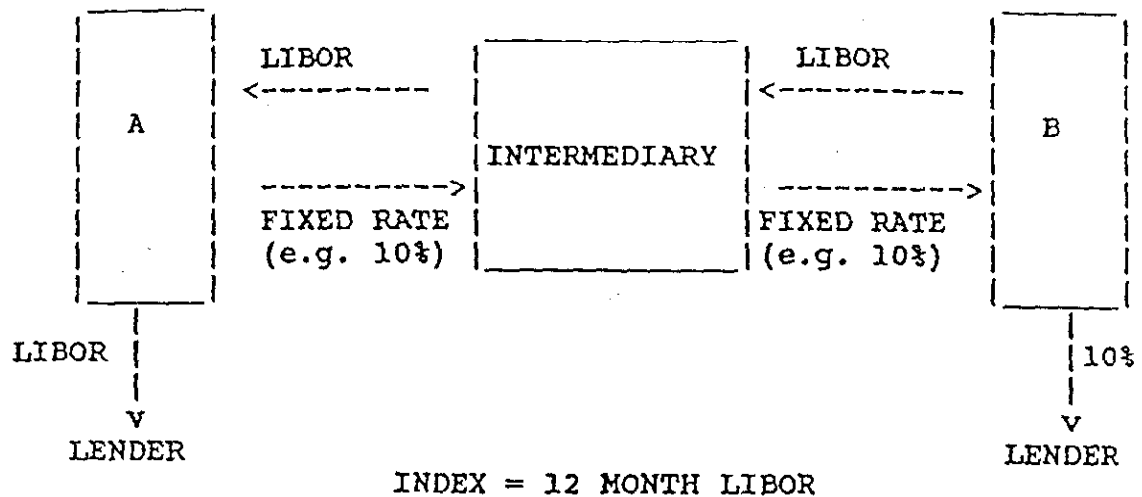
Swaps Defined

A swap is an agreement between two or more parties to exchange a series of payments calculated on different bases. In its simplest terms, a swap is an exchange of a stream of payments. Swaps are generally used to protect the taxpayer against risk of interest rate and exchange rate fluctuations in respect of assets held or obligations incurred. In that sense, they are hedging tools analogous to futures and forwards.

1. Interest rate swap: A series of fixed rate payments to be received in exchange for a series of floating rate payments. The agreement usually applies to transactions denominated in a single currency (usually dollars) but can apply to transactions in two different currencies (cross-currency swaps).

a. How it works: The simplest type of swap arrangement involves the exchange of a fixed rate for a variable rate obligation, both denominated in the same currency. For example, a "LIBOR for 10%, \$100MM swap with annual payments" is an agreement that on the annual payment date, the parties will exchange \$10MM (10% of \$100MM) for LIBOR (London Interbank Offering Rate) x \$100MM. In the typical interest rate swap, the payments are netted so that a single payment is made by the net loser to the net winner. For example: LIBOR is 9.85% on the payment date, the LIBOR payer would receive \$150,000 from the fixed payer (\$10 million - \$9.85 million).

STRUCTURE OF AN INTEREST RATE SWAP



b. Why swap interest rates: A taxpayer can use a swap to change the nature of liabilities or assets and related cash outflows or inflows. For instance, a taxpayer might want to match the interest rates it is receiving on interest bearing assets with the interest rate that it is paying on its liabilities. A taxpayer may also use the swap market to lower its overall cost of funds. The spread between the rates available to good and bad credit borrowers is narrower for floating rate borrowing than it is for fixed rate borrowing. That spread can be shared to both parties' advantage through an interest rate swap. For example, a borrower who is not rated, or is poorly rated by S&P or Moody's may nevertheless feel that it needs to protect itself from interest rate fluctuations. This borrower could enter into short-term or floating rate borrowings, then enter into an interest rate swap in which it pays fixed and receives floating. This effectively separates the borrower's credit problem from its business risk of increasing interest rates.

Example:

	10 %	
	POOR ----->	GOOD
	CREDIT <-----	CREDIT
If borrowed	LIBOR	could borrow
fixed would		floating @
have to pay		LIBOR
11 %		
	borrows	borrows
	floating	fixed @
	@ LIBOR + 1/2 %	9 + 1/2 %
Effective cost of borrowing		Effective cost of borrowing
Swap out (10%)		(LIBOR)
Swap In LIBOR		10%
Net out (LIBOR + 1/2%)		(9 + 1/2%)
10 + 1/2 %		LIBOR - 1/2 %
=====		=====

2. Currency Swap: *Treas. Reg. Section 1.988-5T(a)(4)*
(ii)(A) defines a currency swap contract as a contract involving two different currencies between two or more parties to-- (1) Exchange periodic interim payments at the swap exchange rate on or prior to maturity of the contract; and (2) Exchange the swap principal amount upon maturity of the contract at the swap exchange rate. A currency swap contract may also require an exchange of the swap principal amount upon commencement of the agreement. The foreign currency swap market is much larger than the market for currency futures or options. Foreign currency swaps are routinely used by banks and other financial institutions in setting their rates for forward foreign exchange transactions. They are essential to multinational corporations in hedging their foreign exchange exposures.

a. How it works: Foreign currency swaps are the simultaneous borrowing of one currency and the sale of or investment in a second currency. The basic foreign currency swap is essentially a repurchase agreement and is recorded as two foreign exchange contracts.

In a foreign currency swap, the parties typically buy and sell currencies (e.g., Japanese yen for U.S. dollars) in the spot market and enter into

agreements to sell and buy these currencies at a future date. The parties make periodic payments to each other in the respective currencies based on the market interest rate for that country when the swap was entered into. At maturity, the parties reexchange the principal amounts at the rate agreed to at the outset of the swap transaction.

Foreign currency swaps are done for essentially three reasons: risk management, arbitrage, and access to lower rate debt. Assume, for example, that a bank accepts Japanese yen deposits and holds U.S. dollar assets. The bank has an obvious foreign exchange risk because it must pay interest in yen on the yen deposit while it earns interest in dollars on its loan. The bank can avoid this risk by trading yen for dollars in the spot market and simultaneously entering into a forward contract to sell dollars for yen at a future date. By entering into such a transaction, the bank locks in a selling rate for the dollars it acquires; thereby eliminating the risk that it might suffer a loss due to a fall in the exchange value of the dollar against the yen.

Arbitrage opportunities may exist which allow a party to obtain a fixed rate loan at a cheaper interest rate. For example, a U.S. corporation could possibly borrow Swiss francs at a fixed rate and then immediately hedge the cost of paying the interest and principal on the loan using a foreign currency swap. By immediately hedging the loan, the party has created a synthetic dollar loan. The net economic result after considering the cost to hedge may be borrowing money for 25 or 50 basis points less than the company could borrow dollars at a fixed rate.

CURRENCY SWAP EXAMPLE

= Pound Sterling
= \$1.75 (spot rate)

Dollar Interest Rate = 8%
Pound Interest Rate = 11%

BIG BANK	628,571	Periodic	BIG U.S. CORP.
	----->	Interest	
	<-----	Exchange	
	\$800,000		
	5,714,286	Principal	
	----->	Exchange	
	<-----		
	\$10,000,000		

Big U.S. Corp. incurs a 5,714,286 liability with British Corp. The terms of the three year financing agreement require Big U.S. Corp. to pay British Corp. 11% interest annually on the principal for the first two years. At the end of the third year Big U.S. Corp. must pay British Corp. an annual interest payment and the entire principal amount. The annual interest payment was determined using the current interest rate in the U.K. (11%). Therefore, the annual interest payment is 628,571 (5,714,286 x 11%).

Big U.S. Corp. is concerned about potential currency fluctuations changing the US Dollar cost of their British loan. Consequently, Big U.S. Corp. enters into a foreign currency swap with Big Bank to lock in the US Dollar cost of its loan. They agree to the foreign currency swap shown above. This swap allows Big U.S. Corp. to lock in the US Dollar cost of each interest payment and the principal payment. After the swap agreement is entered into, Big U.S. Corp. has turned their British loan into a synthetic US Dollar loan. Their annual dollar payments to the bank in exchange for the will be \$800,000 (\$10,000,000 x 8%). The \$10,000,000 is the spot rate equivalent of 5,714,286 (5,714,286 x 1.75).

The example above illustrates two characteristics of a foreign currency swap. The periodic/interest exchanges are determined by considering the interest rates in the respective currencies at the time the swap is entered into. The principal exchange is done at the spot rate when the swap is entered into.

3. Basis Swap: Basis swaps are sometimes referred to as "floating swaps." These are agreements where the parties swap floating rate payments calculated on different indexes.
 - a. How it works: Payments based on one variable interest rate (e.g. prime or the 120 day U.S. Treasury rate) are swapped for payments based on another variable interest rate (e.g. LIBOR).
 - b. Who uses them: Basis swaps are used by parties who want to shift payments to an index that is more desirable than the one they have access to or to hedge their balance sheet risks by matching the index of their floating rate assets and liabilities. For example, a bank may have LIBOR based loan assets and prime-based deposit liabilities. To eliminate the basis risk, the bank could use a basis swap to effectively transform its prime-based liability into LIBOR-based payments with dates that match those of its assets.
4. Commodity Swap: A variation on the interest rate swap in which one party under the contract pays a fixed price and the other party pays a variable or floating price. The payments are usually calculated by reference to a commodity index applied to a notional principal amount, which is also typically measured by a commodity. The agreement normally provides for interim net cash settlements rather than payment of the cash gross or delivery of the actual commodity.
 - a. How it works: An end user that buys its oil in the spot market can fix its oil cost by swapping fixed payments (based on the current spot price of a stated amount of oil) for payments based on the spot price of the stated amount of oil on the payment date (variable). If the spot price on the payment date is above the spot price used to determine the fixed payment, the end-user will receive the difference. If the spot price is below the fixed payment amount, the end-user will pay the difference to the counterparty.
 - b. Who uses them: A commodity swap can be used to hedge production costs, consumption costs, or refining margin. The commodity swap can also be used to arrange commodity-indexed financing or to invest in "synthetic reserves". The commodity swap is being aggressively

marketed in the energy industry and we can expect to see it used a lot more during the 1990's.

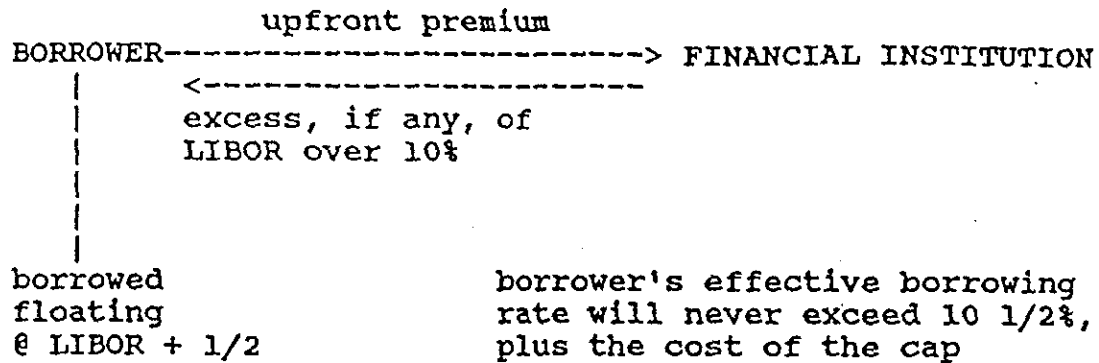
APS, FLOORS, AND COLLARS

1. In general. Caps, floors, and collars are interest rate risk management tools that permit a user to establish the maximum level of interest expense that the user would be required to pay as a fixed rate borrower or the minimum amount of interest income that a user would realize as a floating rate investor. As a general rule, these products limit, rather than fully shift interest rate exposure. The economics of an interest rate cap, floor, or collar closely resemble a series of interest rate options.
2. Cap defined. An interest rate cap is an agreement under which the writer receives an initial premium payment in exchange for its promise to make a series of payments equal to the excess on each payment date of a floating-rate index over a specified fixed rate, each as applied to a notional principal amount (e.g., the excess of LIBOR over 10%). The interest rate cap protects a party against rising interest rates.

How it works: The purchaser of the cap pays the writer (seller) of the cap a premium of \$2MM in return for the writer's promise to pay the purchaser LIBOR - 10% on a notional principal amount of \$30MM. In this cap, the strike price is 10%. If the interest rate is 11% on the payment date, the writer will pay the purchaser \$300,000 $(11\% - 10\%) \times (\$30MM)$. If LIBOR is 10% or less on the payment date, the writer will pay nothing to the purchaser.

Who uses them: In general, the purchaser of an interest rate cap will be the same taxpayer who would normally enter into the fixed leg of an interest rate swap agreement. This taxpayer may be unable to obtain a swap or may decide that it is more cost effective to limit its interest rate exposure with a cap rather than fix it with a swap.

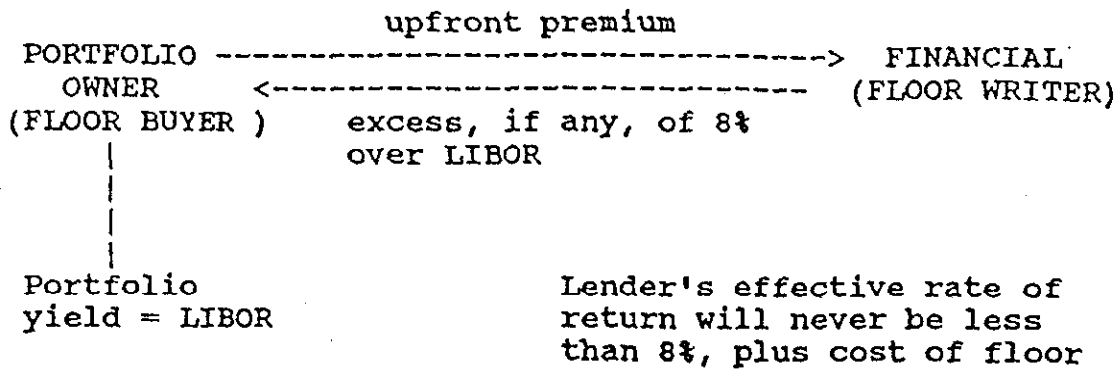
Example:



3. Floors defined: Interest rate floor is an agreement under which the writer (seller) typically receives an initial premium payment in exchange for its promise to make a series of payments to equal the excess of a specified fixed rate over a floating rate index, each as applied to a notional principal amount, (e.g. the excess 8% over LIBOR). Interest rate floors are designed to protect a party against falling interest rates.

How it works: The purchaser pays the writer an upfront premium in return for the writer's promise to pay the purchaser a cash payment equal to the difference between 8% and the prevailing market rate if on the payment date the market rate falls below 8%. For example: a party's investment portfolio yields 8%. Current projections for year-end yields range from 6 - 8%. To protect against a possible net decrease of 2%, the party can purchase an 8% "floor". If yield drops to 6.5%, the portfolio yield of 6.5% plus the floor 1.5% (8% - 6.5%) allows the purchaser to maintain its desired yield of 8%.

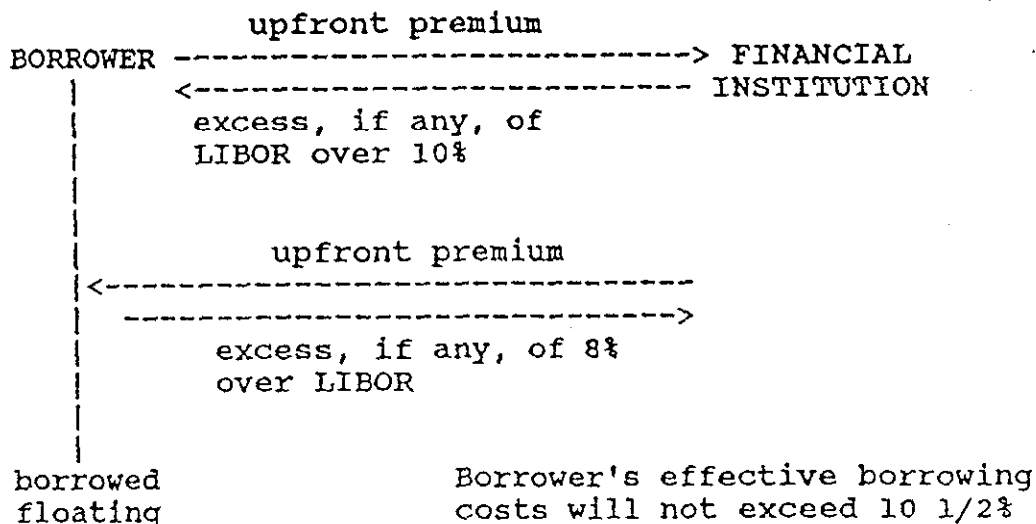
Who uses them: The purchaser of a floor is typically hedging against a decrease in interest rates on a floating rate asset. The owner of the floating rate asset can then be assured of a minimum return.



4. Collars defined: An interest rate collar is a combination of a cap and a floor. The agreement provides that the seller of the collar, for an upfront fee agrees to limit the buyer's floating interest rate to a band limited by a specified Cap rate and Floor rate. (A collar is sometimes referred to as a "Fence".)

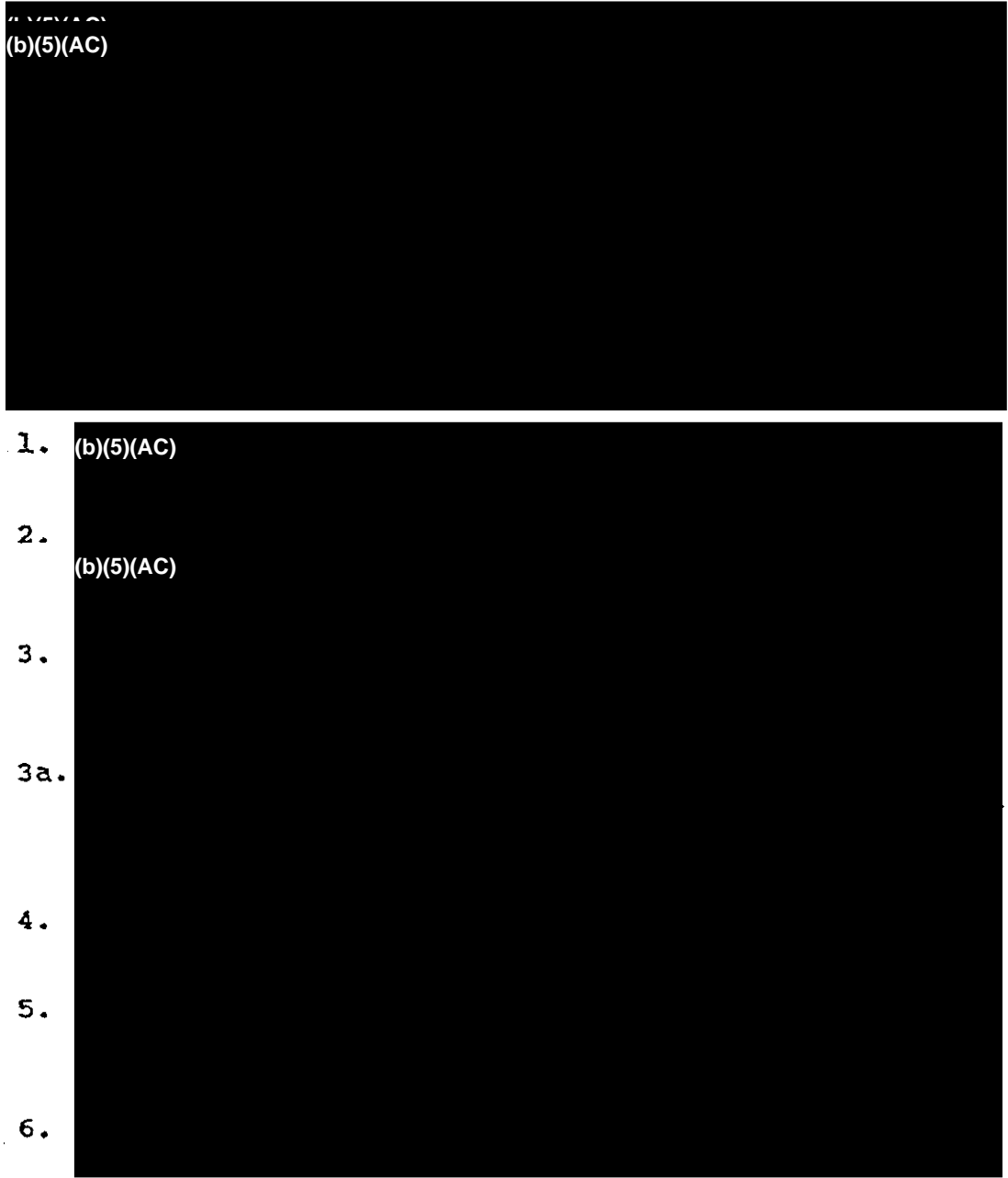
How it works: If market rates exceed the cap level, the Seller will make payments to the Purchaser sufficient to bring the rate back to the cap level. If market rates fall below the floor level, the Seller makes payments to the Buyer to bring the rates up to the floor level. When market rates are between the Cap and the Floor, the Purchaser receives no payment from the seller. A collar with a very narrow range between the cap rate and floor rate has the same economic effect as a swap. In fact, a typical swap agreement could be characterized as a cap and a floor based on current market rate rather than on an agreed to "out-of-the money" rate.

Example:



AUDIT TECHNIQUES

(b)(5)(AC)



1. (b)(5)(AC)

2. (b)(5)(AC)

3.

3a.

4.

5.

6.

cc: Jill Frisch
Joe Masselli
Christine Halphen